Amendment to the Claims:

1. (Original) A method for improving the bandwidth efficiency of a continuous phase modulation signal comprised of plural symbols over a communication channel comprising the steps of:

coding an input data stream;

modulating a carrier frequency with the coded input data stream as a constant envelope continuous phase modulation waveform; and

converting the constant envelope continuous phase modulation waveform into a non-constant envelope continuous phase modulation waveform thereby improving the bandwidth of the signal,

wherein the step of converting includes interpolation of a path between constellation points along a chord connecting successive constellation points

2. (Original) The method of Claim 1, wherein said coding is trellis coding.

3. (Original) The method of Claim 1, wherein the path is a function of an angle between the successive constellation points.

4. (Original) The method of Claim 1, wherein the non-constant envelope continuous phase modulation waveform has multiple modulation indices.

5. (Original) The method of Claim 1 further comprising interleaving the coded input data stream thereby providing time diversity.

6. (Original) The method of Claim 5 further comprising the step of filtering the non-constant envelope continuous phase modulation waveform thereby band limiting the transmission signal.

7. (Original) A method for improving the bandwidth efficiency of a constant envelope continuous phase modulated waveform signal encoded with data symbols, comprising the steps of varying a complex amplitude of the signal between successive constellation points prior to transmission and controlling the complex amplitude of the signal to follow a path between successive constellation points that is more direct than the arc of a unit circle circumscribing the constellation points.

8. (Original) The method of Claim 7, wherein the signal's complex amplitude follows a chord of the unit circle connecting the successive constellation points.

9. (Original) The method of Claim 7, wherein the step of varying a complex amplitude comprises the step of attenuating the signal.

10. (Original) The method of Claim 7, wherein the step of varying a complex amplitude comprises the step of amplifying the signal.

11. (Original) A method of transmitting data as a non-constant envelope continuous phase modulation signal comprised of a plurality of symbols in a constellation comprising the steps of:

coding the plurality of symbols into a plurality of CPM symbols; and

transecting ones of said CPM symbols by a direct path during modulation of the coded plurality of symbols thereby enabling the transmission of a non-constant envelope continuous phase modulation waveform.

12. (Original) The method of Claim 11, wherein the coding is trellis coding.

13. (Original) The method of Claim 11, wherein the direct path is a function of the positions of successive constellation points.

14. (Original) The method of Claim 11, wherein the direct path is a function of the rotation of the waveform about a unit circle.

15. (Original) The method of Claim 11, wherein the non-constant envelope continuous phase modulation waveform has multiple modulation indices.

16. (Original) A method for modulating an input data stream wherein said input data stream is comprised of a plurality of symbols, said symbols represented as constellation positions in a complex plane comprising the steps of generating a continuous phase modulation waveform modulated with the plurality of symbols, and modifying the complex amplitude between the successive constellation positions to

traverse the complex plane in a straight path from one of said constellation positions to another of said constellation positions.

17. (Original) The method of Claim 16, wherein the input data stream is trellis coded.

18. (Original) The method of Claim 16 further comprising filtering the input data stream with a pre-modulation filter to achieve proper frequency deviation.

19. (Original) The method of Claim 18, wherein the filter is a non-linear filter.

20. (Original) In a constant envelope continuous phase modulation waveform communication system including a transmitter for transmitting data as continuous phase modulation symbols and a receiver with a constant envelope continuous phase modulation demodulator, the improvement comprising a conversion means for converting a constant envelope continuous phase modulation waveform into a non-constant continuous phase modulation waveform prior to transmission such that the complex amplitude of the waveform between successive constellation points is less than the complex amplitude at each of the constellation points.

21. (Original) The system of Claim 20, wherein the transmitter further comprises a coder.

22. (Original) The system of Claim 20, wherein the transmitter further comprises an interleaver.

23. (Original) The system of Claim 20, wherein said conversion means varies the complex amplitude of the waveform as a function of positions of constellation points.

24. (Original) The system of Claim 20, wherein said conversion means comprises an interpolator controlling a variable amplifier.

25. (Original) The system of Claim 20, wherein said conversion means comprises an interpolator controlling a variable attenuator.

26. (Currently Amended) ~~In a~~ A method for transmitting an input data stream as phase locations in a complex plane in a continuous phase modulation waveform, comprising the steps of: ~~the improvement wherein the method further comprises the step of~~

modulating the continuous phase modulation waveform with the input data stream; and ~~by~~

transecting the complex plane between successive phase locations in a substantially straight path.

27. (Currently Amended) ~~In a~~ A method for communicating data comprising the steps of:

~~that is transmitted~~ transmitting data as a plurality of symbols within a complex plane as a continuous phase modulated waveform[[,]]; and

~~the improvement wherein the method further comprises the step of~~ varying the magnitude of the waveform in the complex plane during the transition between ones of said symbols.

28. (Original) The method of Claim 27, wherein said plurality of symbols are phase locations in the complex plane.

29. (Previously presented) The method of Claim 27, wherein the step of varying further comprises varying the magnitude linearly across the constellation plane.

30. (Original) The method of Claim 27, wherein the magnitude of the waveform between ones of said symbols is less than the magnitude of the waveform at the symbol locations.